HOW TO BUILD SOFTWARE THAT MATTERS

20 Essential Steps to Avoid Failure and Achieve Success When Developing a New Digital Product

Ondrej Machart

What's inside

"If advertisers spent the same amount of money on improving their products as they do on advertising then they wouldn't have to advertise them."
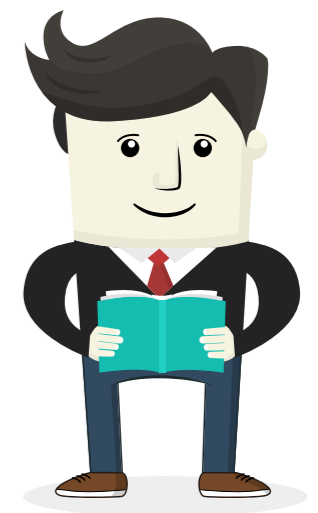
- WILL ROGERS

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Editor: Susan Brock
E-book version: v2.1

Some of the graphics used in this e-book were inspired, based on or downloaded from the Flaticon.com artwork database.

Let's go!

Let me share a story of a nice guy named Peter.

Peter is smart director of a major entertainment company in Asia. In 2015 Peter decided to develop a mobile app to win his company a higher market share by offering a new type of content.

So he invested time and money into making his idea real - and it all seemed right. The design of the app was great, the content was full of engagive stories and the campaign helped to gain attention from the start.

There was one problem though. People didn't use the app. Those who downloaded it, deleted it after few uses. It didn't make sense, because the project seemed well executed. So why the app didn't eventually serve its purpose?

While Peter isn't his real name, his story is - and it's not the only one out there. In fact, 95% of all apps end the same way every day.

The reason might seem surprising - although people like Peter are great at what they do, they often miss some key steps along the way to build a product that actually matters.

This is why you should read this e-book before you take the leap and build something new - it will guide you through 20 essential steps you need to take to avoid failure and to maximise your chances of achieving notable success with your future digital product.

It won't build the product for you, but by reading this e-book you'll understand what's ahead of you, and unlike the 95%, you'll be able to prepare for the challenge.

The digital adventure is calling.
Make sure you're ready when you decide to answer it.
Let's dive in!

AVOID EARLY FAILURE

PREPARE A WINNING STRATEGY

BUILD PRODUCT THAT LASTS

GO LIVE, GO LOUD!

Who is this e-book for?

As with any product, this e-book is not for everyone. It's not a detailed manual for every aspect of developing software. But it's a great place to start when you have an idea for building software and you want to be prepared for the journey.

Entrepreneurs
Those who dare to build a successful start-up

You may be alone or already have a team around you. You may be young and thrilled or you may already be an experienced professional.

There's an idea for a new digital product in your head, be it a mobile app or online software. This idea most likely arose from your own personal experience of a deficiency in existing products or a gap in the market. You believe you've found a solution to a problem you understand very well, and now you want to make a business of it.

This e-book will help you get things organised before you jump into the implementation. It will help you clarify your idea and prepare a bulletproof plan.

CXOs
Those who introduce digital innovation to big companies

Your company deals with high volumes of data, customers and processes. You're in charge of product, sales, business development, IT or marketing (or the company).

You want to grow revenue or cut costs for your company by developing a new digital product and taking it to market. Your main focus is on defining the requirements and balancing the ROI, without being involved in too much of the detail.

This e-book will give you a handy overview of how to build the product effectively and with the use of proven best practices.

Project Managers
Those who accept the challenge of leading a digital project

You have been tasked with the challenge of building new software that will help your company reach better results in today's digital world.

You know how to get things done, but the specifics of building an app are new to you and you need to understand what's ahead - how to avoid unnecessary delays, how to get the best results from the technology, what to focus on in the early stages and how to eventually achieve success with the final product.

This e-book will give you a step-by-step overview as well as a handful of tips on the tools, methods and other sources you can use.

This e-book is not about specific business models, project management techniques, wireframing tools, prototyping approaches or programming languages. It's more of a mental guide for those who want to build a digital product that matters and that will bring a real revenue in the future.
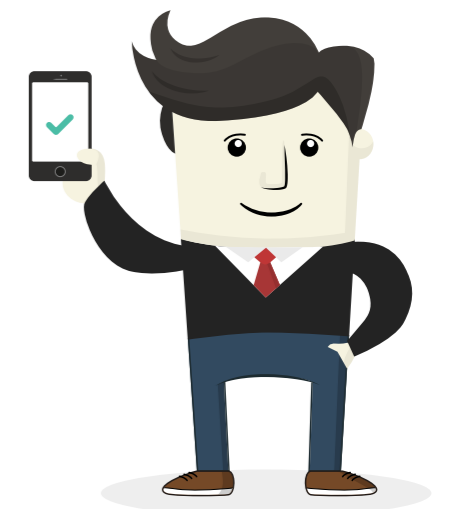
What will you get?

Through 4 chapters and 20 simple steps, this e-book will provide you the most important insights you need to know to prepare for the challenge of developing a mobile or web app.

Bird's eye view

Gain a good understanding and a high-level perspective to prepare for the challenge of developing a mobile or web app. You will learn the steps you need to take and the questions you need to answer first, in order to get things done right.

Handy tools & resources

Get examples and links to practical tools, methods and sources that are essential for your project. Use them to effectively test ideas and concepts or to extend your knowledge of certain methodologies described in this e-book.

Roadmap to avoid costly mistakes

Learn from others and find out how to avoid the most common mistakes and failures made a thousand times before - like incorrect distribution channels, unrealistic requirements, untested prototypes, time wasted on features nobody will use... Get to know them and avoid them.

Successful mindset

Set your mindset and expectations about the time, money and quality upfront. Learn how to define and measure the success of your software to make the right decisions about its future. Understand the philosophy behind successful apps and apply it to your own.

Effective approach

Get tips on how to get the best from your IT team or how to find the right development company for your project. Understand what development approaches and methodologies exist and which one works best for your plans.

How to use this e-book

One-page overview

Each chapter has 5 practical tips. To make it short and simple, we made each tip fit into one page.

Case study story

Throughout this e-book you will see how each tip was applied to a specific real-life project.

Handy links

Since all the tips are put short and simple, you can find further reading in more articles online.

Avoid Early Failure

So you have an idea for a great app or other digital product. Is there any reason why you shouldn't just go ahead and start getting it done?

You bet there is. The internet is a huge graveyard of projects that have failed and not always because of bad execution - but very often because of the initial idea itself. You need to validate whether the idea is worth your time and money.

Let's look at 5 simple steps to do that.

I want to build a _____
for _____.

They need it,
because _____.

Validate ideas before
turning them into a business.

A=$ B=♥

Get to know
the surroundings

Barriers   Solutions   Market
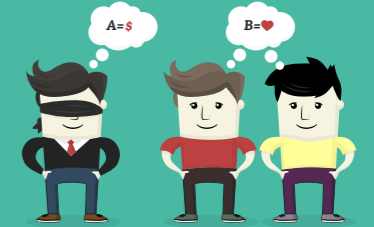
3, 2, 1... Brainstorm!

Evaluate the future

8 demand   7 market   9 costs

1. Find a problem to solve

Think about the apps and digital products you would describe as successful - what do they have in common? They all solve a real problem. That's why they have become popular and even essential over time. You should think about your own product in the same way.

Ask yourself:

1. **What problem** do I want to solve?
2. How much do I **understand** the problem?
3. What kind of **people** experience the problem?
4. **Why** is this problem **important** to them?
5. Will they be willing to **pay** for the solution?

Many apps and products have failed and been forgotten, simply because the person or team who made them didn't answer these questions first. Solving a problem that nobody has can only lead to failure. Solving a problem that people really struggle with is the first signal that you're heading the right way.

If you can't answer these questions, save yourself from future pain. Try to iterate your idea until you can see its value for people who will buy it one day.

> *Throughout this e-book, we will use the story of David Eiselt and his digital product as a real-life practical example. David built a website for travellers who seek cheap air tickets. One day he decided to extend his product to give its users greater value and to generate more revenue. He focused on other problems that budget travellers are dealing with - planning their trip and sharing their adventures with others. After considering the needs and desires of his target audience, he decided to create a unique online travel guide for every destination and build a tech-friendly blogging platform for independent travellers.*

I want to build a _____
for _____ .

They need it,
because _____ .

Read more about building great business in Peter Thiel's amazing book Zero to one:
Go discover

Start with problems, not solutions - advice from the founder of Crew startup:
Go discover

Learn how to find problems worth solving by careful listening and simple research:
Go discover

Combine your passion and big real life problems to create a product that actually matters:
Go discover

2. Validate the idea with real people

Once you discover the problem you want to solve, it's essential to make sure your assumptions are correct. To do that, you have to ask the people you expect to be your future customers.

1. Share an **online questionnaire** with your target audience (e.g. in a relevant Facebook Group) where you ask about the problems people experience, how much they struggle to solve them and how they tackle things today.

2. Another effective way to validate your idea is to perform **simple online research** and see what people say about the problem in various discussions and forums, what existing solutions are already out there and what people think about them.

3. Lastly, the best possible way is to **chat with people** in person to achieve more in-depth insights. Try to understand what their goals are in relation to your subject matter, and what frustrates and motivates them. Ask open-ended questions. Avoid mentioning your presumptions in your questioning (it can influence their answers). Always ask ‚why'.

The crucial point here is to **identify your target audience**. It's never everyone. The more specific you can be about the target audience, the more likely you will be to get relevant feedback. So pay attention to who you address and meet during this step and take notes that describe them. You can find out more about that topic in the Chapter 2 under Who is your target audience.

David made use of his big fan base on Facebook and sent an online questionnaire that uncovered multiple opportunities. People shared their problems - like finding accurate and trustworthy travel information about the weather, public transportation and security. Many also mentioned that they would love to have a travel blog, but they simply didn't know how to create one. Wordpress and other platforms are just too complicated for them. Experienced bloggers, on the other hand, said that these platforms are inadequate as they don't focus on travelling and its niche requirements.

Validate ideas before turning them into a business.

A=$

B=♥
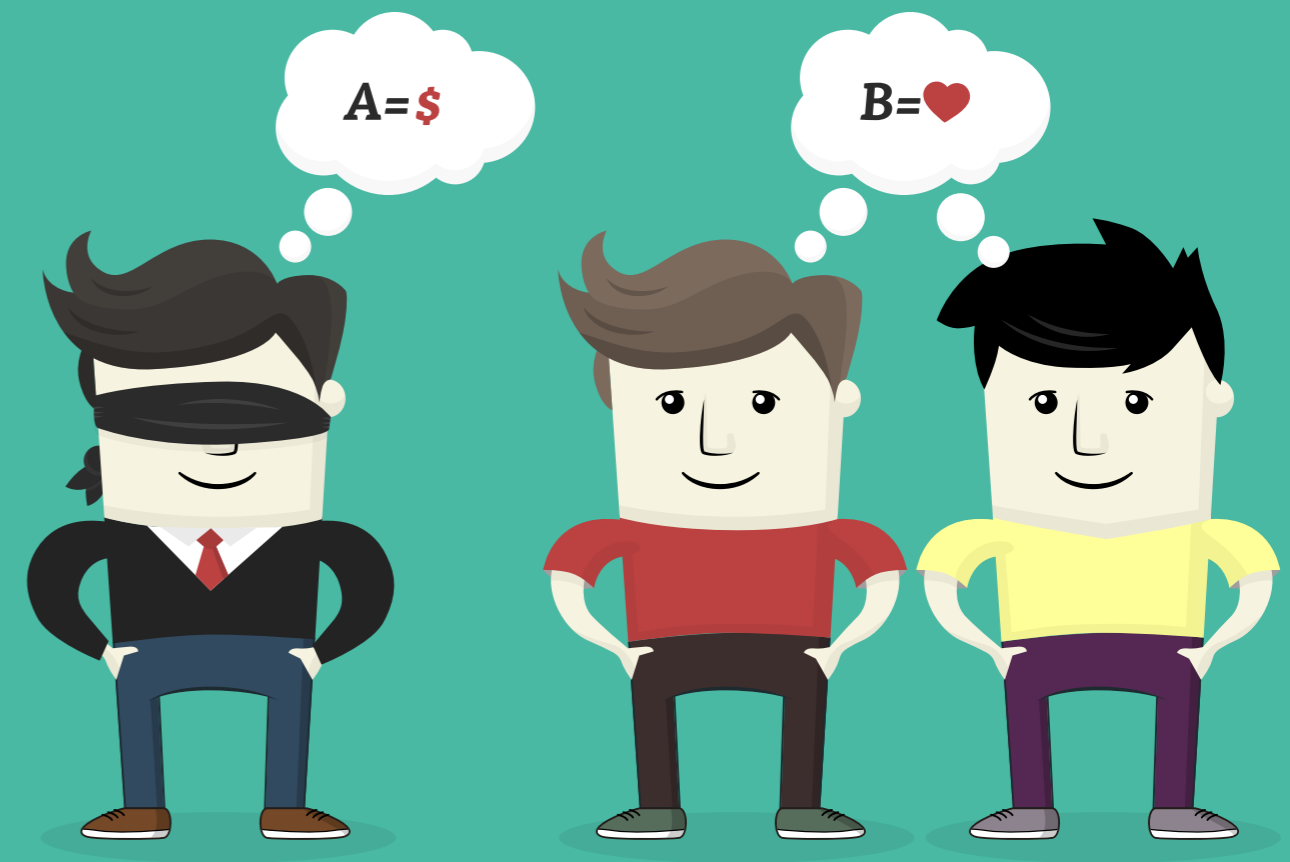
Use this amazing deck of method cards from IDEO as an inspiration:
Go discover

Here's a great list of 20 questions to ask your future customers to validate the idea:
Go discover

Enjoy this article about how to rapidly validate your startup idea with real people:
Go discover

Try this tool for business idea validation from the founders of Lean Startup Machine:
Go discover

3. Explore the problem

At this point you know what problem you want to solve and you have checked that the problem is real and valid. Now it's time to dig deeper and fully understand the topic.

1. Start by exploring the **existing solutions** - are there any? How do they solve the problem? Who do they target? How much do they cost? Do they solve the problem in its full scope or just partially?

2. Then look at the **limitations** - how complex is the problem and how difficult will it be to solve it? Are there any obvious technical limits (e.g. a missing or expensive technology)? Are there any legal limits?

3. Finally, **check the market** - Will the market be big enough or is it a very specific problem that would only target a small number of people? Would the competition be hard, and are there any well-established and trusted leaders?

By answering these questions you can get a much **clearer idea** of the challenge you're facing.

Maybe the competition is just too strong. Maybe you would have to address technical limitations that would make it expensive to build the product. Maybe the market is too small.

Or maybe you'll find that you've just discovered a **market gap** that is waiting for a great solution. In that case, don't waste any time and proceed to the next chapter.

David found that there are many websites with travel information, but many of these are in English and not Czech, and most offer generic content that is old and not that valuable. He personally had a vast amount of travel experience and access to great resources that he could share and use to build truly valuable travel guides. By looking at blogging platforms, he found no solution that would enable people with zero coding knowledge to create beautiful, feature-rich online travel diaries. The opportunity was clear.

Get to know the surroundings

Barriers

Solutions

Market

Get a great book from Guy Kawasaki The Art of the Start to find more insights:
Go discover

Use this handy online tool to get priceless feedback to your business idea:
Go discover

See this comprehensive list of things to check before you fall in love with your startup idea:
Go discover

Learn more about how to research your market in this article from Enrepreneur.com:
Go discover

4. Brainstorm the best solution

If after the first three steps you can say that you have found a problem, it has no ideal solution, and there's an audience big enough to call it an opportunity, it makes sense to investigate the solution - your future product - further.

If you think you already know how best to design the solution, think twice before you fall in love with your initial idea. What if there's a better way?

1. Take paper or a whiteboard, a pen and 1 - 4 people.

2. **Brainstorm** the problem and its solutions.

3. Let your **imagination run wild** and don't ignore any ideas.

4. **Write everything down** and discuss every idea - try to combine them or build upon them for a new perspective.

5. When brainstorming is over, take your ideas and have a **realistic conversation** about them. Discuss their value, potential, benefits over competition and limitations.

6. Make a list of the **ideas that make sense** and write up a short description of each as a future product. How will it work?

7. Pick the top 3 ideas and turn them into **rough sketches**. Compare your mockups and discuss the best possible approach to the solution.

8. Take your ideas and sketches and **show them** to your target audience. What do they think? Do they understand it? How would they use it?

David brainstormed a blogging platform that will enable people with absolutely no technical knowledge to create travel diaries focused on beautiful story-telling, thanks to easily generated maps, photos and videos. He also had a great idea - instead of writing all the travel guides himself, he could ask his Facebook fans to create them for a small reward. That helped him save a lot of time and gather a huge amount of unique and valuable content.

3, 2, 1... Brainstorm!

Dive really deep into the brainstorming methodology and principles:
Go discover

To boost your creativity, try one of the playful Improv games focused on associations:
Go discover

Combine brainstorming and sketching to come up with visual outputs:
Go discover

Also try a method called edgecraft from Seth Godin to keep it more focused:
Go discover

5. Estimate the potential

Before you enter the next phase, you first need to make sure that your assumptions about the solution are correct. That means talking to your target audience once again.

If you think you already know how best to design the solution, think twice **Ask the right people** to give you few minutes of their time to let you present your idea:

1. What do they think about it? Do they understand it?
2. Would they use such product? Is it better than their existing options?
3. Would they pay for it? How much would they pay for it?

If the idea is valid from the user's perspective, let's look at it from a **developer point of view**:

1. How complicated will the product be? Does it have many sophisticated features or is it straightforward?
2. Go ahead and send your project description to multiple development companies and ask them for ballpark figures. It is a good idea to have them first sign an NDA agreement.
3. How much do they think the development would cost? How long would it take them to build it?

Maybe they'll suggest an easier solution. They may advise that it's best to divide the product into phases and start with the essential features that will grow in time.

David consulted directly with travellers about his ideas. He found that people were seriously interested in using the product and that it made sense to pursue his idea. Based on estimates from the development company, it looked like implementation would be a lengthy process and require an initially expensive investment - but he calculated that the potential results would outperform the initial costs.

Evaluate the future
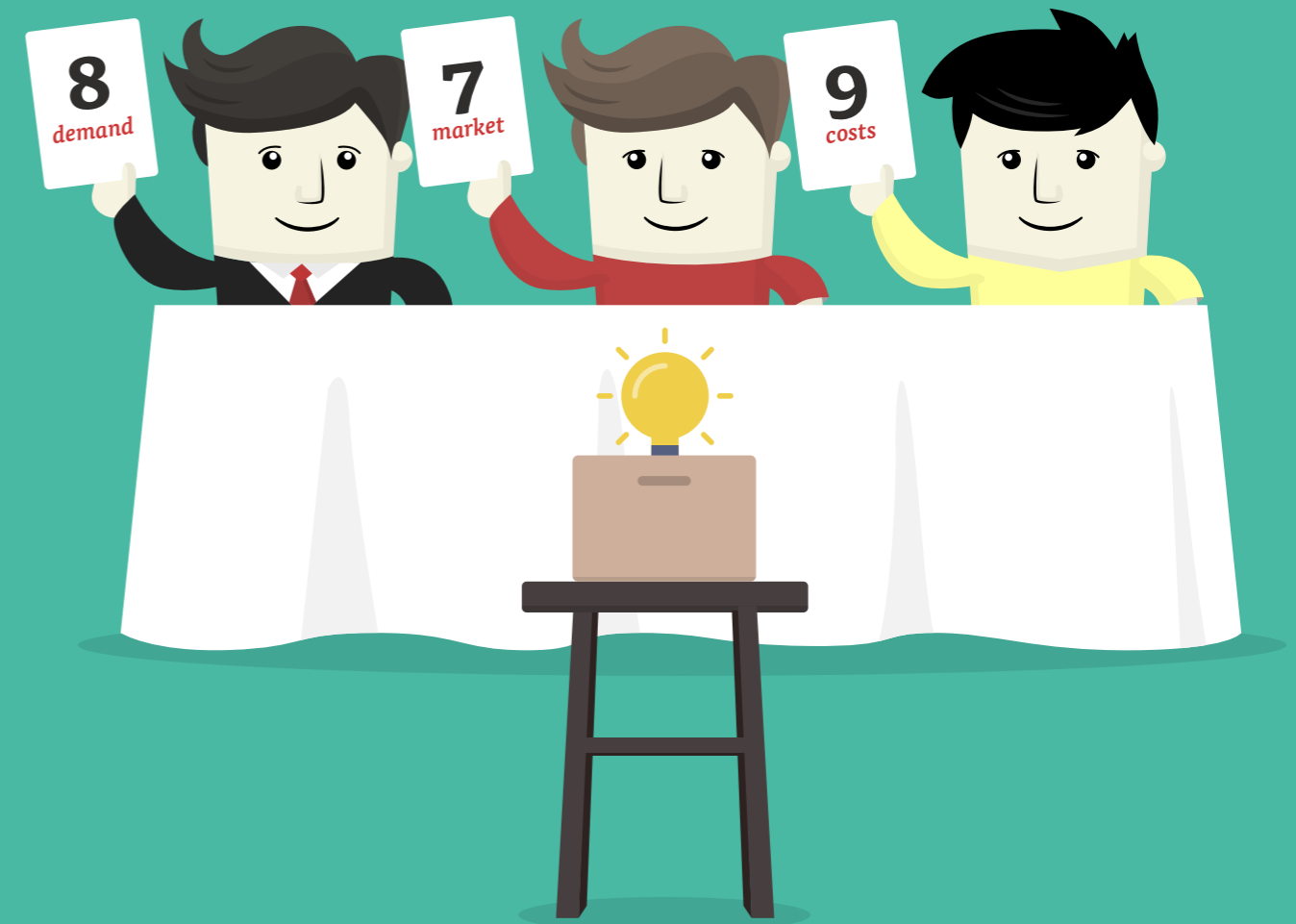
This approach is based on the Lean Startup methodology from Eric Ries. Learn more:
Go discover

To create your first lean startup canvas, try this free tool from Xtensio:
Go discover

Prepare a winning strategy

The first important step to a successful digital product is behind you. You have a clear vision of what you want to build. That's not enough to go for it and start building it just yet.

Next, you have to create a bulletproof business plan to make sure all the work that's ahead of you will pay off in the future.

Ready?

Create personas

Name
Age
Job
City

I want to
It's important for me because
My ordinary day
I hate when
I'm afraid that
I wish I could just

Set your revenue streams

One-time fee | Monthly subscription | Advertising

Set your distribution channels

Official app stores | Cloud-based App | Landing page

What is success to you?

The Minimum Viable Product

Minimum viable product | Future product

6. Define your target audience

There are 2 pieces of good advice for defining your target audience:

1. Don't be too broad and vague. Your target group can't be everyone. Your software solves a specific problem to specific people. Find out who they are.

2. Don't limit yourself to a market that is too small or local. Aim high and think globally, or else you may find yourself struggling to acquire new customers one day.

Now get to know your target group. Meet them, talk to them, **ask them questions:**

1. Who are they?

2. What does their ordinary day look like?

3. What do they care about most?

4. How do they define success?

5. What are they afraid of? What do they wish for?

Only those who truly understand their customers are able to design and deliver the best product. These questions can uncover an important piece of information about their core motivation that you can focus on. It will also help you to target your future advertising efforts.

> *David interviewed travellers and found out how many travel bloggers there are out there, how they blog and what problems they struggle with every day. Questionnaires uncovered how many travellers don't blog, but would like to. From his website visitor analysis, he knew how many travellers fitted the target group. Combining this sort of information, you'll realise how big the market is and how you can delight people with a well-focused product that addresses their desires.*

Create personas
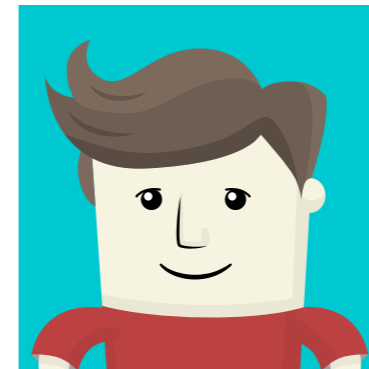
	Name
	Age
	Job
	City

I want to

It's important for me because

My ordinary day

I hate when

I'm afraid that

I wish I could just

Personas are a complex topic. You can start with this article from Shlomo Goltz:
Go discover

Learn more with this series of articles about creating and using personas:
Go discover

There is also a book just about this topic. Give it a try if you want to know more:
Go discover

Try this free tool for creating personas online. It can help you start:
Go discover

7. Define your revenue streams

Think about how the product will make you money:

1. Will people **pay directly** for using it?

2. If so, will they pay a **one-time fee** or a **monthly subscription**?

3. **How much** should they pay?

4. Can you set **different prices** for multiple plans, differentiated by features?

5. If people won't be willing to pay for the product, **can you still monetise it**?

6. What types of brands could be interested in being **promoted by your product**?

7. **What is your ideal ROI** (return on investment)? Should it only take six months to break even on costs vs revenues, or is it most likely that it will be a matter of years? The shorter the ROI needs to be, the more users you will need to acquire or the higher the price needs to be.

While your answers may change in the future as you optimise your strategy, it's good to think of them now. It will greatly affect the design of the product and requirements on the development side.

> *David found that it made sense to offer the product for free because it would make money from advertising and affiliate partnerships with travel-related companies (hotels, car rentals, air ticket portals etc.). But he also found that advanced users would gladly pay for an app that would enable them to take notes during their trips, which they could later easily turn into an online travel diary.*

Set your revenue streams

One-time fee

Monthly subscription

Advertising

Revenue
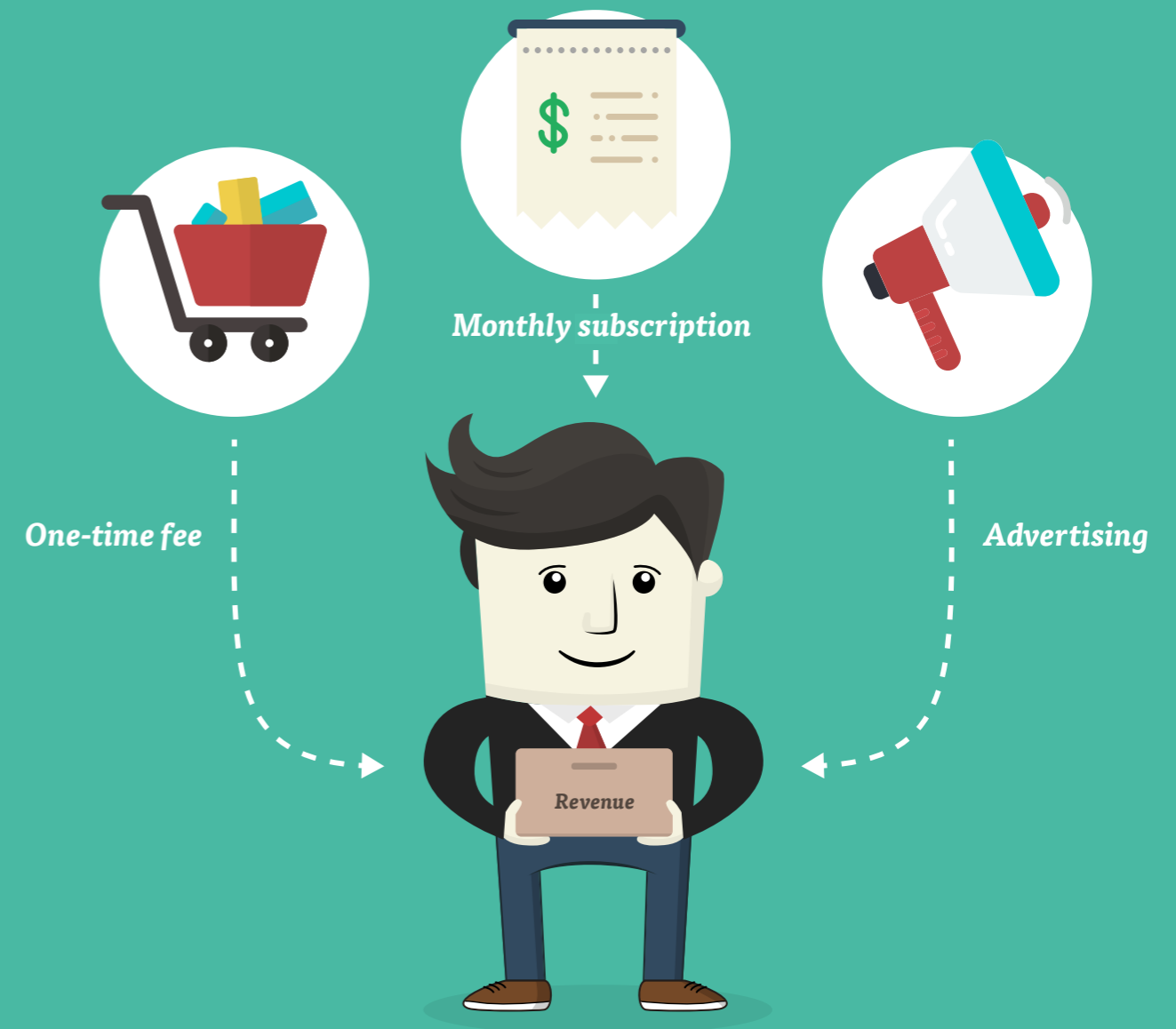
Gain a better understanding of how to price your product. Read article from Joel Gascoigne:
Go discover

If your product is software as a service (SaaS), listen to this podcast on pricing:
Go discover

8. Define your distribution channels

How will you sell and distribute the product? Will it be enough to have a custom website where you'll offer your app or is it necessary to display it in other places, eg. in an app store?

1. Mobile apps are offered in the **iTunes store and Google Play Store**, but you need to keep in mind that both stores will take some commission from your sales.

2. For desktop software, it's quite common today that the product is **"cloud-based"**, meaning that it's available online through a web page, where people can create a new account and use the product as a web service (e.g. Facebook). It's very convenient for the user as there's no need to install anything.

3. Software can be also offered as a **native desktop application** (e.g. Skype client), but this requires some extra work and separate development for different operating systems (Mac vs. Windows). The advantage is that such an app doesn't necessarily need an internet connection and can have extra functionality that may be difficult to implement with a web-based product.

4. Some apps are available **in all forms** - as a mobile app, native desktop app and a cloud-based web app (e.g. Slack). Some use a combination of these options and some are only available to a certain target audience, e.g. Apple users.

Choosing the right distribution channels will help you clear up some critical technical details about your future product.

You should ask yourself which channel is the most suitable for your target audience. In what context and in what environment will they typically use it? Also have the costs in mind - covering all channels can be very expensive.

> *David has his own website that will host the new product, but there will also be iOS and Android mobile apps for travellers who are currently "on the road".*

Set your distribution channels

Cloud-based App

Official app stores

Landing page
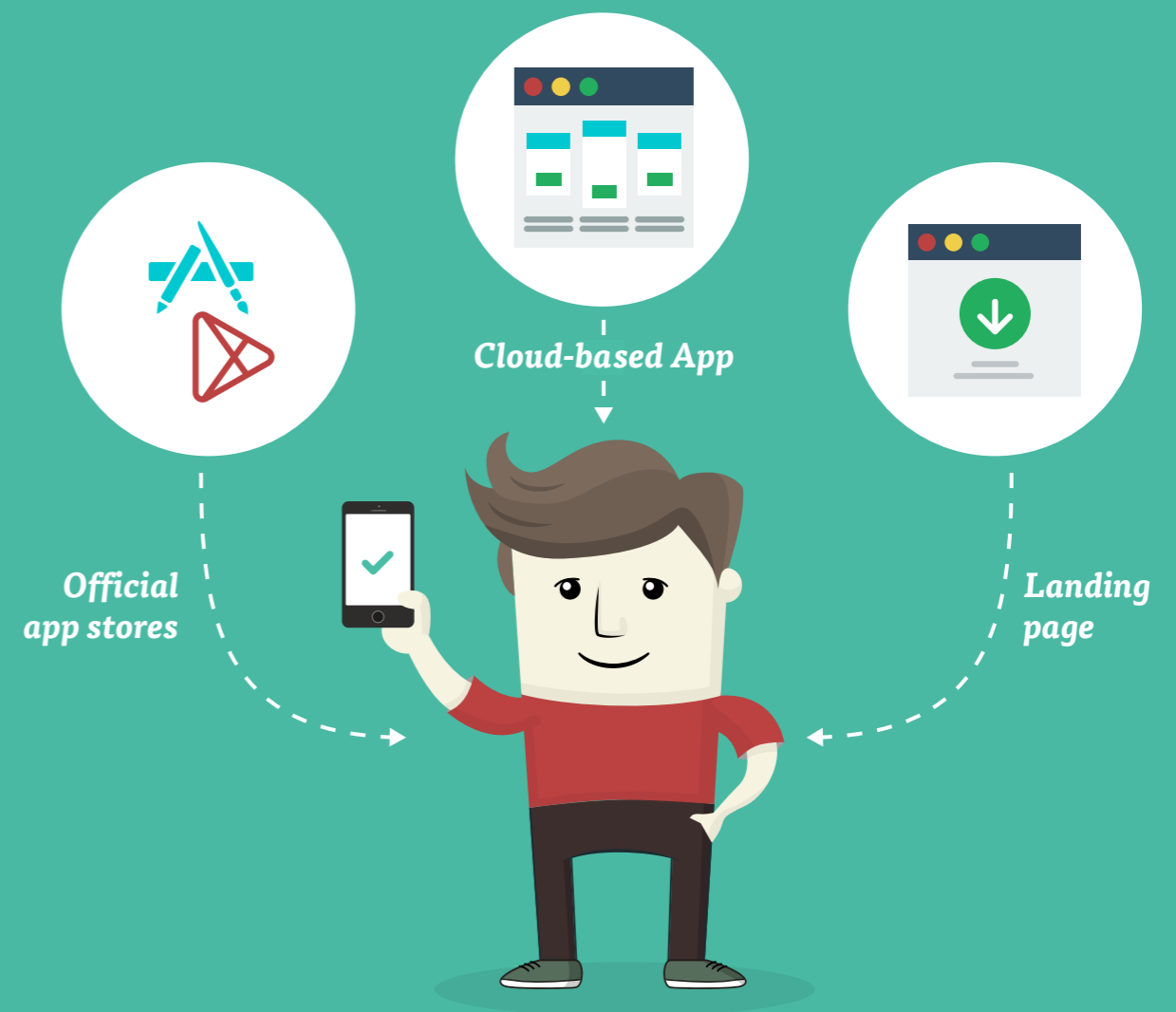
Distribution channels depend on your business model. This book is a must for that reason:
Go discover

If you plan to build a mobile app, read this article to understand the platforms to choose from:
Go discover

9. Define your key metrics

To build a successful digital product you need to define its success - how will you measure it? What are the key metrics that will tell you if you're on the right track?

It's not just about the revenue. **Important metrics** could be:

1. The number of new users per week
2. The daily active users
3. The conversion rate for turning free users into premium users
4. The volume of online word of mouth (e.g. sharing on social sites).
5. You can also measure how much it costs to acquire a new user and how much you earn from having them on board.

There are many possible metrics and ways to track them. Make sure you have a good idea of what you want to measure from day one, as otherwise you won't be able to make useful future decisions based on this data.

Set one metric that is the most important of them all. It's called a **"North Star"**. Every product should have its own. What metric is the most important to you?

Defining these metrics will also help you determine **how you should measure** them - some of them can be analysed by tools like Google Analytics or performance tracking tools provided by Apple and Google.

You could also find that some metrics have to be measured separately as part of the product, meaning that you will want the developer to track certain metrics and provide you with a dashboard or regular reports.

David can measure most of his desired metrics with Google Analytics, if he sets it up correctly - revenues, conversion rates, number of new users weekly, etc. With these insights, he will be able to evaluate the performance of the product and take appropriate actions if the numbers are disappointing.

What is success to you?

All good   **Warning**

Here is a great article from Roman Pichler on choosing the right KPIs:
Go discover

Another comprehensive article about identifying your product key metrics:
Go discover

10. Define your MVP

The concept of your strategy is almost ready - you know your product, the competition, target audience, you know how you want to monetise it. Now you need to prepare a "minimum viable product" - a concept of the first version of your software that will be marketed.

Why?

It makes no sense to spend years developing a large and complex product, as **everything changes quickly in the digital business**. You need to know how to get to the market quickly and start building your business right away.

Think about the product and how it would look in its first official version:

1. Which features are the most **essential and valuable**?

2. Which features and functions **can wait**?

3. Which functions could **cause delays**?

Speak with your developers and target audience to get the right answers.

Delivering the minimum viable product quickly requires an agile development approach, which is based on frequent iterations. We'll talk more about this in Use Agile Development under Chapter 3.

David decided that the unique travel guides would be an essential part of the product - it would be the solution for the most common problem travellers have, and could be solved rather quickly by asking backpackers to participate in creating the content. It would have a huge impact on acquiring new users as content marketing would enable the portal to be found via search engines. The blogging platform, on the other hand, was marked as a "second phase" that would be finished after the minimum viable product was already on the market.

The Minimum Viable Product

Minimum viable product
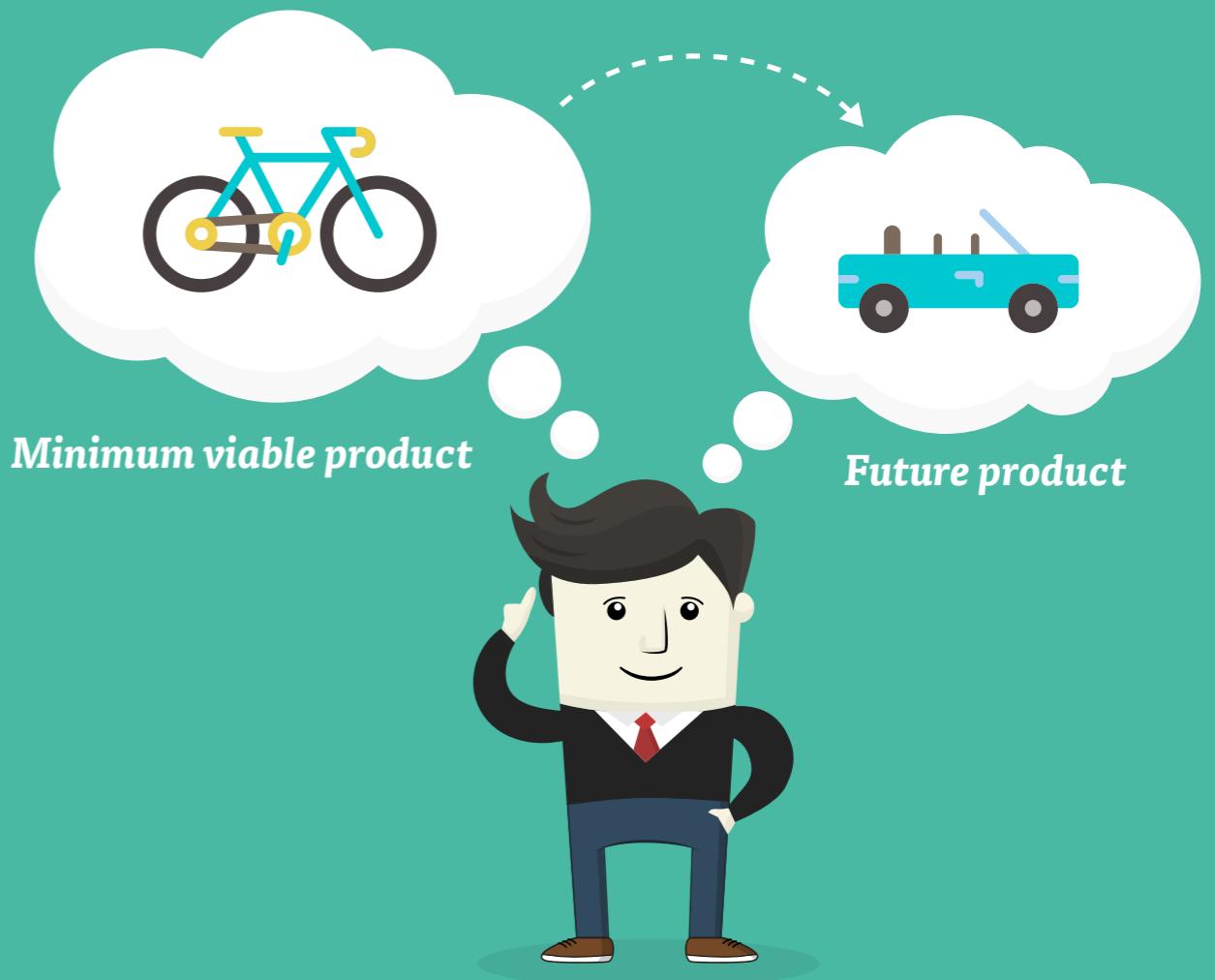
Future product

A funny and accurate illustration of how you should think of the MVP:
Go discover

Use story mapping of your features to define the right minimum viable product:
Go discover

For further reading about minimum viable product, check out this article:
Go discover

MVP is described in the Lean Startup book from Eric Ries. Learn more here:
Go discover

Build product that lasts

So you've turned your app idea into a future-proof strategy. That's really awesome!

Now you need to build the actual product. Ok - this doesn't even sound easy. And it won't be, but you can prepare to keep things go smoothly.

Let's dive in!

Choose your axis

Bigger investment — Longer time — Lower quality

Pick the right partner

Time & Sources

Value & Know-how

Agile development

Plan / Design / Build / Test / Review

Sprints

Iteration / Incremental building / Launch

Test to save time and money

Don't wait until it's perfect. It will never be.

Launch MVP

Feedback

Perfect — Add — Replace — Launch

Improve — Change — Redesign — Fix — Ehance

11. Costs - Quality - Time triangle

There are many software development companies on the market, each with a different level of skill and pricing. Before you choose one of them, you should have a realistic look at your constraints - known as the cost - quality - time triangle.

With each project, you can only maximise two points on the triangle:

1. If you want high quality (or no compromise on features) in the shortest time possible, you will have **high costs**. Only really good development companies can deliver top results in a short time, with a high performing team. For good reason, these companies are not cheap.

2. If you prefer high quality but at lower cost, it will take a **longer time** to build the product. If a good development house isn't within your budget, you will probably have to hire and coordinate your own developers instead of an agency.

3. If you lack time and money, you will have to think carefully about the product and make it **simpler**.

Unfortunately, you can't have all three. A high quality product that is very cheap and created in the shortest time possible is a myth. What may happen though, is that you'll realise your true priorities at a later stage.

Most people have set constraints on the budget side of the triangle. If that's the case for you, the first thing to do is not to enforce crazy deadlines on yourself as it will force you to compromise on the quality.

In making this decision, take into account your product's potential. Don't think of the money as a cost, but rather as an investment that will reap returns. Do you believe in your idea? How about pitching it to an investor?

> *David decided to choose the high quality - lower costs axis. For him, this meant that the design would be handled by an agency, while the development would be handled by his own team. It also meant that the project would take a year to complete, but this was not an issue, since his competition was not making any progress anyway.*

Choose your axis

Bigger investment

Longer time

Lower quality
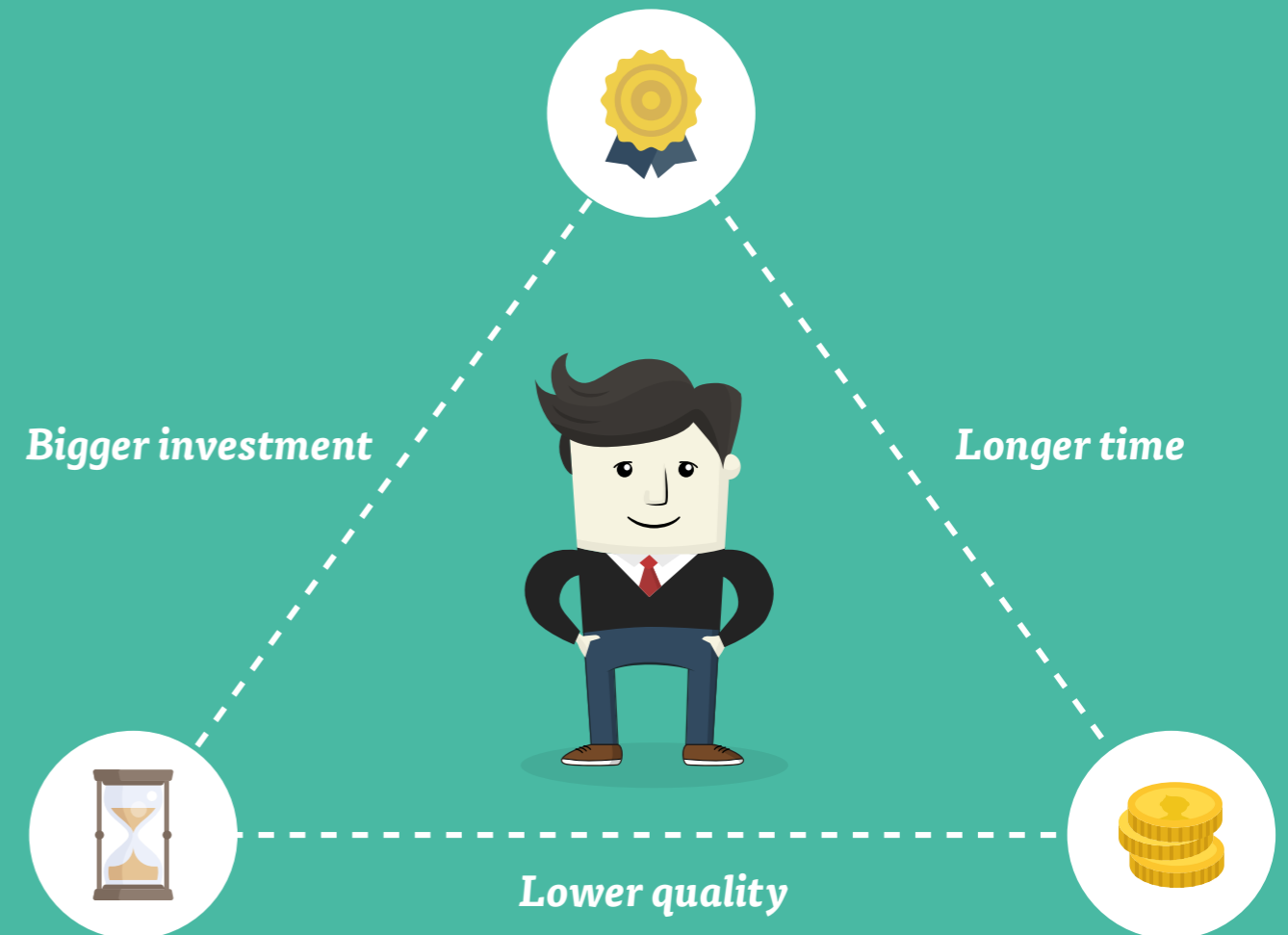
Marlene Hopkins wrote this reflection on the cost - time - quality triangle:
Go discover

Fix time and budget, flex scope - advice from the founders of 37Signals:
Go discover

Read about this variation of cost - time - scope from Projectsmart website:
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Costs are too high? Pitching your idea to investors? Use this template from Guy Kawasaki:
Go discover

12. Choose the right developers

Ok, this task is not as easy as it sounds. If you don't understand the development process, you might struggle to make the decision based on anything but the price offer. Here are few tips that to help with you that.

1. Obvious stuff: Address more companies, and look for **recommendations** from the people you know.

2. Don't settle for e-mail communication. **Meet the people**, look at the team - is it just a group of developers who will simply do what they're told or is there a business analyst or consultant who will discuss your plan and help you to clarify the vision?

3. Do they ask you questions focused purely on what you want or do they also ask about the actual needs, motivations, users, business, etc.? A quality development company should aim to work on meaningful projects and to do that, **they should ask these questions**.

4. Look at the projects they've done. Look at the overall impression, but also at the nature of their projects - have they done a mobile app before? **Ask for a reference** and get feedback from a past client.

5. **Is the company active** in its field? Do they create professional content? Do they speak at conferences or at least attend some? Will they help you to push the project or will they need to be pulled along by you?

If you can't answer positively for most of these points, don't risk finding yourself at a point in the project where you'll have to choose a different company or struggle to get things done with the wrong one. You wouldn't let amateurs build your house only to be buried under it one day.

David chose agency Argo22. While I don't really want to pitch the company here, I believe he made that decision after considering other options. First, he asked us to come up with ideas for improving his website - he liked that we gave him a clear vision focused on delivering true value. After that, he gave us the opportunity to execute on his new plan.

Pick the right partner

Time & Sources

Value & Know-how
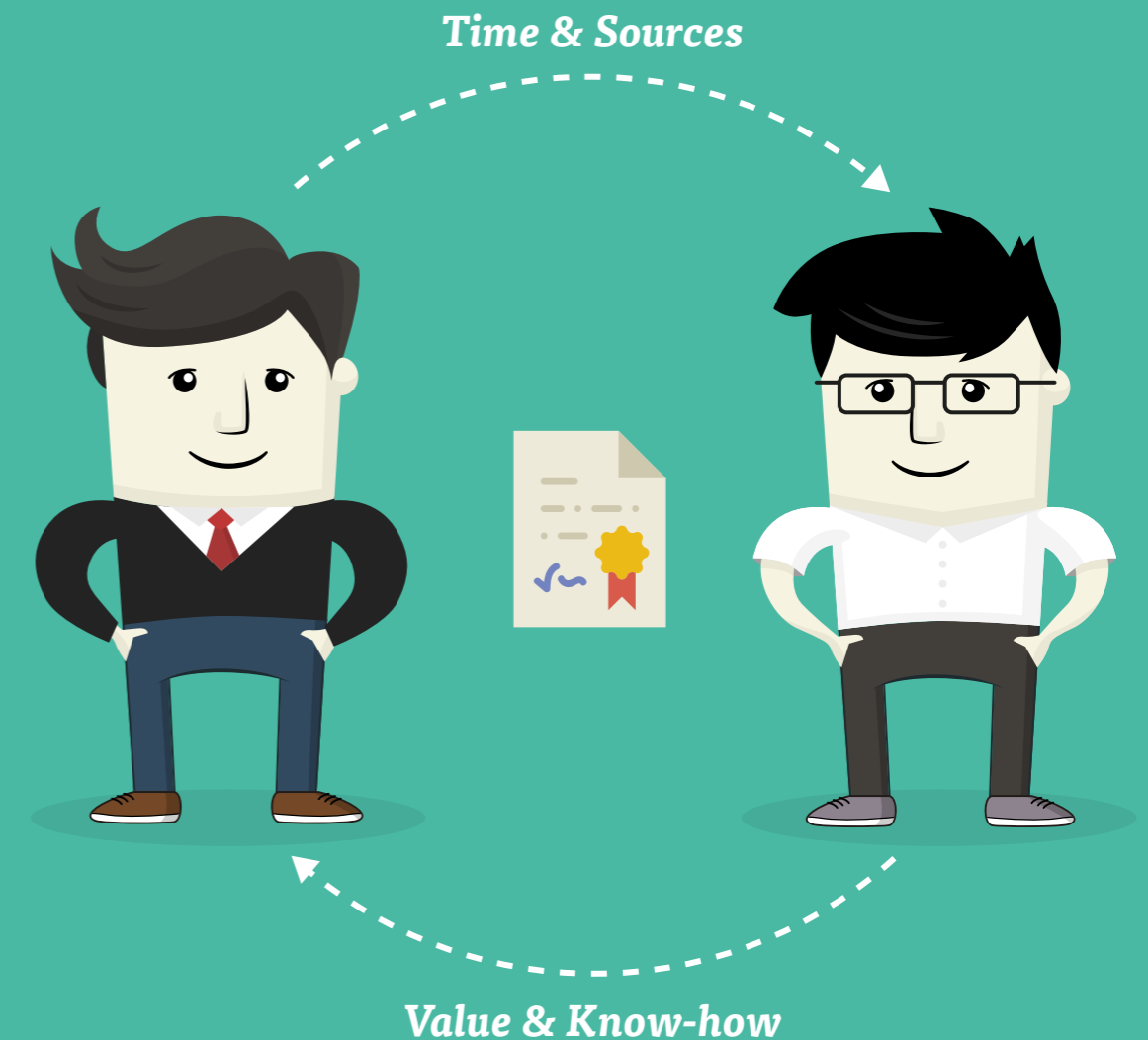
Read about various qualities to check when choosing a development company:
Go discover

3 points to remember:
Price is not everything
A company is made by the people
Until the pilot, it's just a theatre

Another article about how to pick the right agency for developing your product:
Go discover

Use these great tips from Paul Boag to ensure you get the most of your developers:
Go discover

13. Use agile development

In general, there are 2 ways to develop software: the Waterfall approach and the Agile Development.

1. With the **Waterfall Approach**, you first put together a **complete project specification**, defining how the final product should look and work and all of its features. The agency then gives you a **fixed price** offer for the entire project. Then the designer creates a complete design and after you approve it, developers build the software, test it and finally hand it over to you and you offer it on the market.

There are some **major issues** with this approach. What if the market changes in the meantime and the product isn't relevant anymore? What if the design doesn't work well and you end up investing more time and money to change it?

2. For these reasons, innovative and experienced market leaders introduced a new approach called **Agile Development**. The idea is based on making regular rounds of definition, design, testing, development and testing again (usually once every 2 weeks). The advantage is that you can quickly have a working prototype that you can test and immediately **iterate** on. The product will be visible **faster** thanks to incremental and continuous development.

Agile Development is based on the principle that **the only constant is change** - and thanks to that it has a more flexible process enabling you to continuously ensure that the product is relevant, usable and aligned with your current needs and market situation. Also, you pay smaller amounts regularly for the actual time and material used, giving you greater control over the project costs. On the other hand, it requires more of your attention and energy - but it pays off.

David took advantage of Agile development. Thanks to fast iterations and close control over the process, he was able to get his first results within 2 months.

Agile development
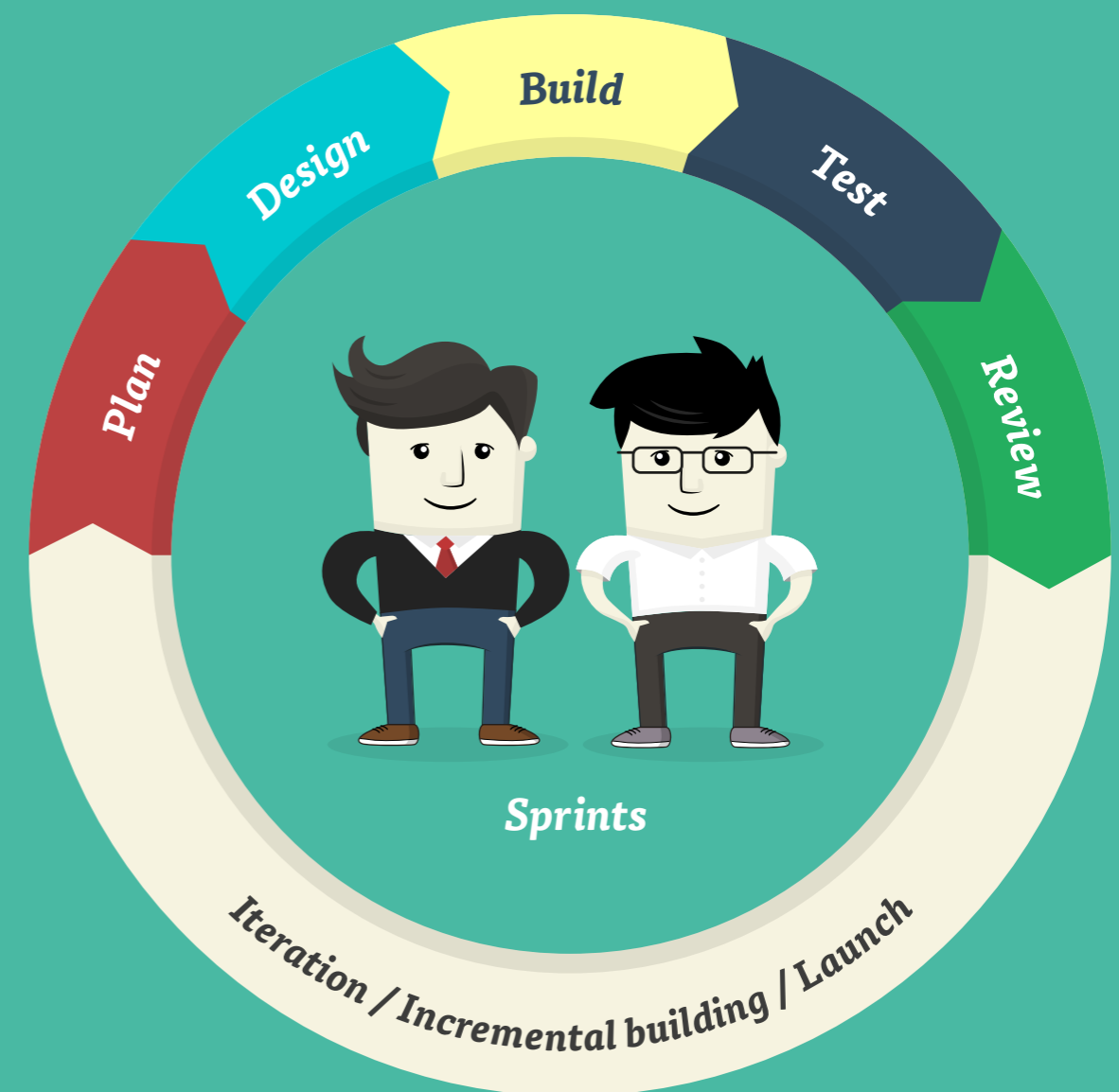
It all started with a manifesto. Read about the core principles of agile development:
Go discover

Understand the difference in pricing of the waterfall and the agile approach:
Go discover

To get serious about agile development, read this book. It is the bible of agile:
Go discover

Or start with this Agile 101 article that explains all the basics and principles:
Go discover

14. Test and iterate often

Iterating and testing frequently is an essential part of the agile development approach mentioned in the previous chapter, but sometimes even companies that use this methodology don't test everything with the right people, and you should make sure that regular validation is part of the process.

1. It may be as simple as **showing the current concept**, design or semi-working prototype to people in your target group to get early feedback.

2. You should test how much they **understand** it, whether they use the same **terminology** as the design, if they can **navigate** through the product easily and **finish the given tasks** smoothly.

3. Whenever you find that there is something that can be improved, you should talk with the designers, analysts, consultants and developer team to **correct things** as soon as possible, and then test again.

4. You can do this at **any stage in the process** - test the idea, the concept, the information architecture, the content structure, the copy, the visual design and the working prototype.

This way you will always be sure that you're on the right track heading towards the best possible result that will wow users.

To put it another way, you can easily avoid disappointing surprises that would force you to undo many weeks of work and spend extra time and money on changing complex things.

David and his team tested frequently. Testing the basic concept uncovered which features people cared about most. When the first wireframe was ready, testing helped him optimise the user interface before any graphics were added. Testing of the graphic prototype focused on the overall feeling and the impact of visual elements on how people perceived and used the features. And before he launched the new site, he gave 200 people access to a beta version of the website to identify all the issues they might encounter with various browsers and devices.

Test to save time and money

There are lots of usability testing tools out there. One of the good ones is:
Go discover

Enhance your copy greatly with a simple So what? test. See examples here:
Go discover

You can also use another great set of tools that starts at $29 per month:
Go discover

To keep testing cheap, fun and effective, give the guerilla approach a try:
Go discover

15. Shorten your time to market

Remember the chapter about the minimum viable product? Now you should be at the point where this becomes very relevant, because with agile development you'll get to the first marketable version of your product quite quickly.

Once you see that the product has the essential functions and could be sold to early adopters (users who are desperate to solve their problem and are keen to try new products), you shouldn't waste any more time perfecting details - you should **go live with a "beta" product**.

This is not only so that you can start building awareness and a base of first users, but more importantly you can get early feedback from users that will be extremely helpful.

1. Ask users for **feedback** and thank them when they provide it. How do they find the product so far? What's missing, and what do they like and dislike? Is it easy for them to use it and to complete their most important tasks?

2. Is there anything you can change immediately to make the product more useful? **Change it right away** and see if it works.

One of the advantages of this approach is that users will see that the product team is responding to their needs and feedback. You will create a positive relationship with them and they'll be more willing to recommend it to others.

David gave beta access to the first 200 users who registered an account. By doing this, he gained several ambassadors who then recommended the site to friends and other travellers. He launched the site without one of the future key features - travel itineraries. He did so because he could easily finish the first valuable feature - the destination travel guides - and gain traction and feedback before continuing the build process..

Don't wait until it's perfect. It will never be.

Launch MVP

Feedback

Perfect — Improve — Add — Change — Replace — Redesign — Fix — Ehance — Launch
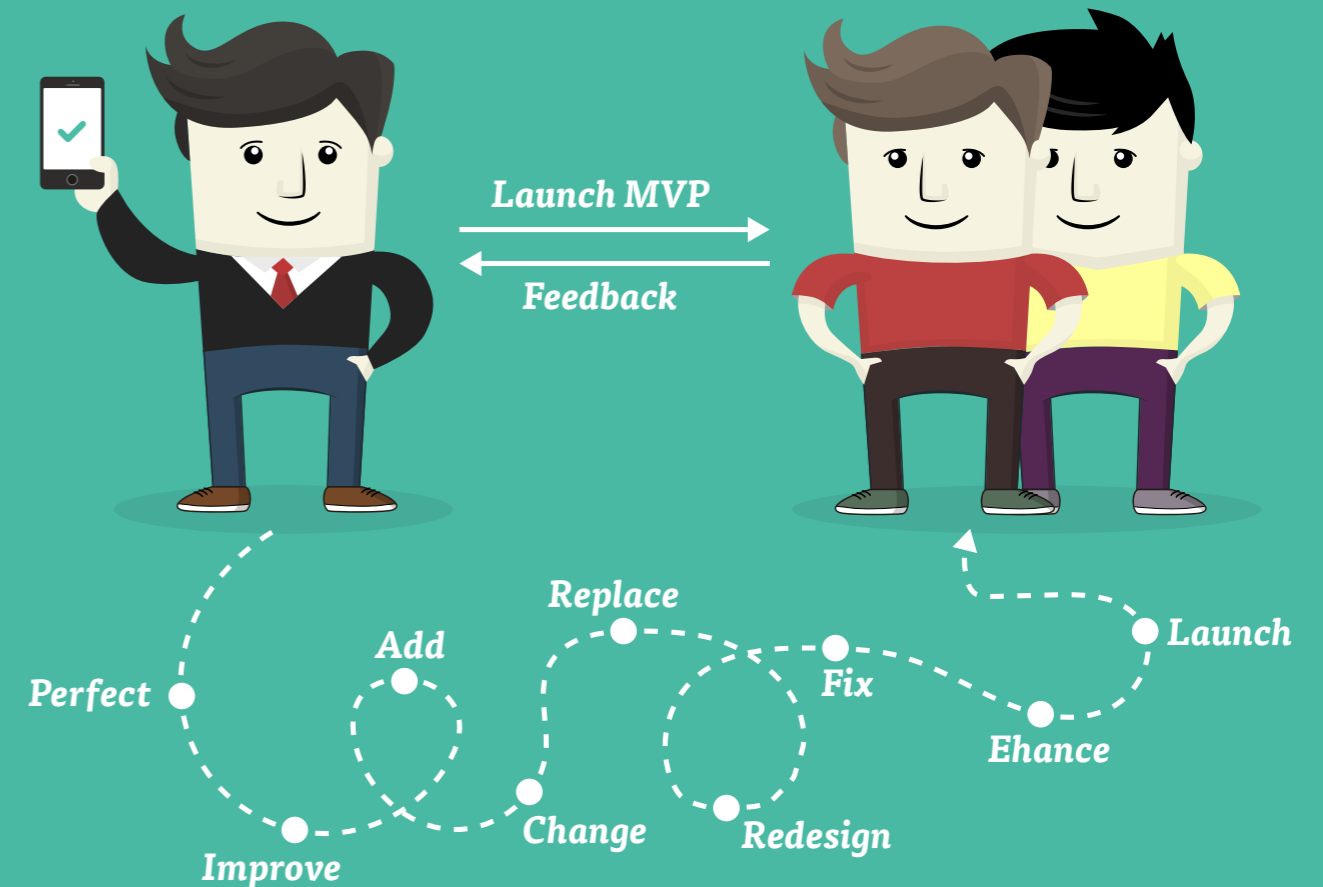
To start or not to start? This article can help you find the answer:
Go discover

Planning to skip perfection and launch early? Read how to tackle it here:
Go discover

Go live, go loud!

So you finally have the product out there - Congratulations! Your digital adventure isn't over, though.

Now you need to make sure your target audience finds your product, tries it, falls in love with it, uses it regularly and recommends it to more people. Even great apps won't spread quickly and automatically. You have to help it along and boost its performance.

So let's look at how to master this part of your project.

Get the message across!
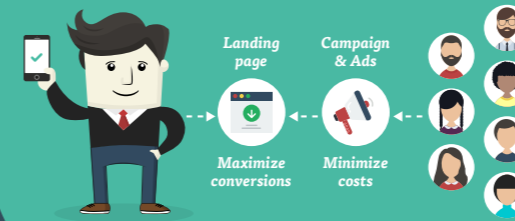
Landing page

Campaign & Ads

Maximize conversions

Minimize costs

The reciprocity effect

Gifts

Urge to give something in return

Turn feedback into your greatest advantage

This is awesome. I love it!

It's a pity it doesn't...

WHAT PEOPLE SAY...
„This is awesome. I love it!"

NEW FEATURE!
This new feature enables you to...

Measure, evaluate & react

Measure

Evaluate

React

Never stop

16. Spread the word quickly

Your app is available and people can buy it. But to get them on board, you need to spread the word about your product. Luckily, there are many ways to do that and some are fairly affordable and effective.

The first thing to do is to make sure that you have a place to send people to. If your product is a cloud-based online application, you should already have a landing page or a sign-up page, where people can read about the features and create an account. If it's a mobile app, then having it available in stores (Google Play and App Store) is not enough, and you should create a promotional website (landing page) as well.

Once you have the landing page, you can start promoting your product.

1. Run an **Adwords campaign** that will target the right audience, react to their browsing or searching behaviour and send them to your product. You may get someone to do that for you if you're not a marketing specialist.

2. Similar to the Adwords campaign, you can run a **Facebook campaign**. Facebook has a great tool to target a very specific audience, thanks to the user data they gather.

3. You can promote the app for free by **mentioning it** in various forums, Facebook groups, discussions and blogs.

4. You can even create your **own blog** where you post relevant and valuable content. This way you'll attract people on the internet who are interested in the topic and generate traffic that you can convert into new users. Or post on **other websites** related to your business.

There are many ways to promote your product. Pick the ones relevant to your audience.

> *David made use of various channels - he promoted the new site through Facebook and Google Adwords, but he also decided to provide an interview to several news portals which could help to put the spotlight on his new product.*

Get the message across!

Landing page

Campaign & Ads

Maximize conversions

Minimize costs

Very comprehensive article on effective lead generation tactics from Neil Patel:
Go discover

Showcase your product on sites like Producthunt, where people look for new tools:
Go discover

How to get first 100 beta signups with zero marketing budget? Read here:
Go discover

Spread the word as quickly as you can with these 7 tips from Kissmetrics:
Go discover

17. Offer discounts and gifts

Bringing relevant traffic to your landing page is one thing. Having people looking at your product is a good start, but the ultimate goal is to turn them into users. To do that, you need to give them a good reason to make the effort to try your app.

1. First make sure you give people a good overview of what problem your product is solving and **what the benefits are**. We say ‚benefits‘ rather than ‚features‘, and there‘s a good reason for that. For example, a handle on a mug is a feature. The benefit is that you won‘t burn your fingers if you have a hot drink in the mug. See the difference? Which one is more convincing?

2. Even if you tell people how great the product is, they might need a bit of a **motivation** to give it a try. Offer them a **discount** for a limited time or a **free version** with limited features to try it before they buy it.

3. You can also give them a **gift** - e.g. give them the first month for free. It may be similar to having free access for a limited time, but telling them that it‘s a gift will have more effect, because psychologically, people love to receive gifts and they dislike not accepting them.

4. Another option is giving people **extra free time** to use the app in exchange **for inviting new users**. Let‘s say that for every new registered user they bring you, both users will get the app for an extra month for free. This way you can spread the app quickly.

While offering discounts or gifts may seem like a loss of revenue, you must realise that getting users onboard is your first priority - you can work with the pricing to bring in more revenue later, but if you don‘t have a solid user base, you‘ll never get to the point where you can play with your ROI.

> *David made the whole website available for free without any registration. The reason was simple - it allowed him to get thousands of users on board. He could turn them into paying customers later by giving them a mobile app that would enable them to create travel itineraries during their vacation.*

The reciprocity effect

Gifts

Urge to give something in return

Great new book about amazing persuasion techniques from Robert Cialdini:
Go discover

Get familiar with these 15 psychological studies you can use in your marketing:
Go discover

Go crazy with gifts, but keep away from price wars. An article from Seth Godin:
Go discover

Absolutely amazing books from Dan Ariely uncover a lot about motivation and logic:
Go discover

18. Gather feedback

You're sending people to your product and you're turning them into users, which is great. Now make some use of it. Ask the users for feedback and get their approval to use their kind words as testimonials.

1. **Negative feedback** can be used as a source of inspiration on how to make the product better. Remember the chapter about frequent testing and iterating? That's still relevant - you should still **improve your product** based on the feedback you get from users. You don't need to change it every time someone complains, but if you see that a noticeable number of users give you the same feedback, you should react accordingly.

2. **Positive feedback** is a gold mine for you as well. If you ask people nicely to allow you to use their words as **testimonials** on the website (and perhaps you offer them some extra gift), you suddenly have compelling content you can add to your landing page. Because once you're not the only one praising the product, others will be more willing to give it a try.
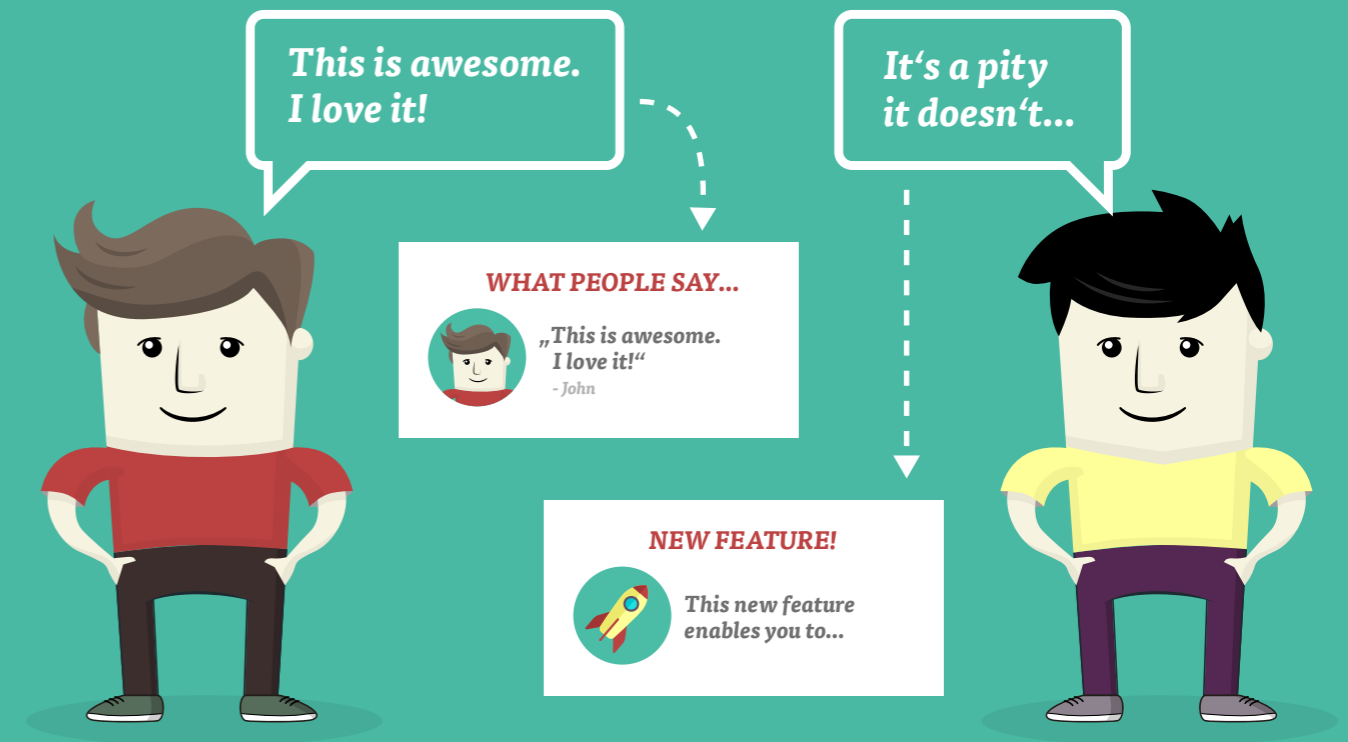
The power of social approval is strong. People tend to align their decisions with the majority of the audience they belong to. So reading positive reviews can help you to convince them to buy your product.

Testimonials are not the only tool you can use here - once you get a good number of users on board, you can use that number to motivate others as well. If thousands of people use your product, others should use it too, right? It's proven to work, so well worth trying!

David gathered feedback in 2 ways. First he gave 200 people access to a private beta version of the site, encouraging them to send feedback whenever they encountered an issue or opportunity for improvement. Then he added a "Suggest Improvement" button to the travel guides to collect valuable feedback from people who had visited each country.

Turn feedback into your greatest advantage

This is awesome. I love it!

It's a pity it doesn't...

WHAT PEOPLE SAY...
„This is awesome. I love it!"
- John

NEW FEATURE!
This new feature enables you to...

An article about using the user feedback for enhancing the experience:
Go discover

There are many tools for gathering feedback. This one works on both web & mobile:
Go discover

How to collect actionable feedback from your users? Read this article:
Go discover

What questions should you ask your customers when collecting the feedback:
Go discover

19. Measure and analyse data

Remember the chapter about defining your key metrics? Now it's time to use these metrics and see how well is your product doing.

The tools you use to track, measure, analyse and evaluate metrics will depend on your product. Mobile apps can be measured in the administration section of your iTunes and Google Play accounts. Web apps can make use of Google Analytics or other tools available on the market.

1. If you have metrics that can't easily be tracked by common tools (ask your developers about that), then you should make sure your dev team sets up tracking of such metrics on a **customised dashboard**.

2. The important thing is to instil the habit of checking your key metrics on a **regular basis**.

3. Looking at the metrics is one thing. The most challenging part is **interpreting** them and **acting** accordingly. If the numbers are not satisfying, invest some time in investigating where the problem lies. A low number of new users might be caused by an insufficient amount of traffic to your landing page or a low conversion rate - perhaps you should give people a better reason to try your product.

4. If the problem seems to be hard to investigate, get **more feedback** from your users - ask them specifically about the problem you're dealing with. Why don't they switch from a free account to the paid one? What would make them change their mind?

Don't be afraid to try and test new ideas - offer a discount to a separate group of users and see if it works better.

> *David is analysing the data about visits on a daily basis. He measures the most visited pages, conversion rates of ticket bookings, time spent on site and the most common path scenarios people take on the site. He also uses a tool called HotJar to see how people interact with the website on various devices, what information they ignore and what elements people focus on most. With all the information he collects, he can come up with ideas on how to further improve the site.*

Measure, evaluate & react

Measure

Evaluate

React
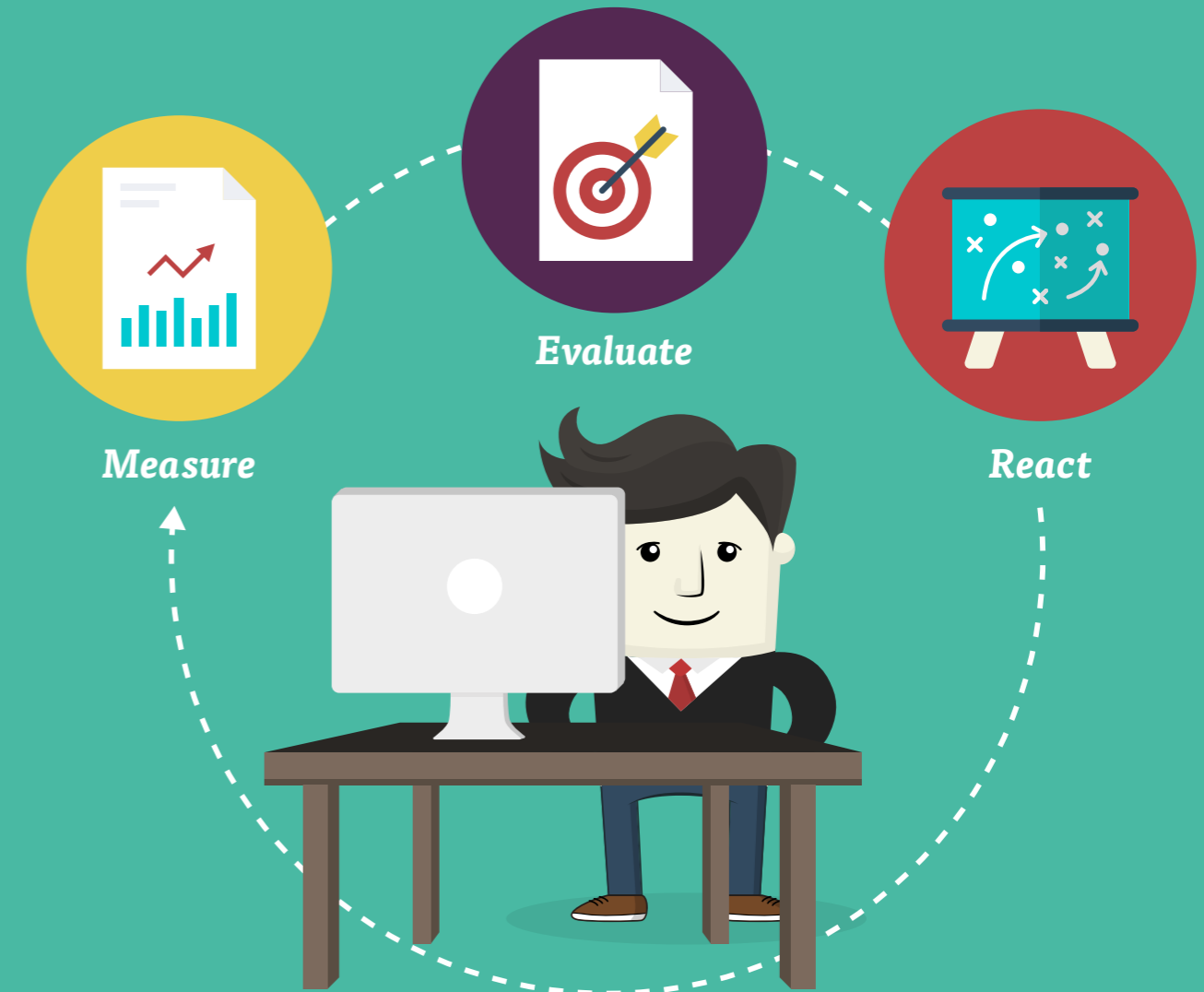
New to Google Analytics? Take this free course for beginners:
Go discover

If you want to see how people are interacting with your product, try this tool:
Go discover

If your product is a mobile app, you can get a lot of insights with this tool:
Go discover

If your users are on Facebook, make sure your campaigns are as effective wth this tool:
Go discover

20. Never stop innovating

Congratulations, you've reached the final step. Don't think of it as of the end of the road, though. We may as well call it "the never-ending step".

You have your product, people are using it and you have feedback that helps you keep the app fresh, relevant and up to date. But that means you can't just put it on a shelf and move on to the next thing, can you?

1. Many apps hit the right spot, find their initial users, but are soon forgotten. There are a number of reasons why this happens - but the most common one is that the owner of the app stopped **moving forward** one day, and others overtook it by adjusting to the market.

2. The app you have today may not be the app your users will need a year from now. Their **needs change**, and their behavior too.

3. If you want to stay relevant, you need to keep moving. **Gather feedback**, measure **key metrics**, keep an eye on your competition, test, iterate, and add new features that will keep your users loyal.

4. This means that you can't simply thank the developers who built the product and say goodbye to them. You will need to understand that there will always be some costs related to **maintaining and developing the product**. But without it, you won't have any revenue. So the key is to balance those numbers in a way that will keep your business alive or even better - growing.

The only question now is - What problem are you going to solve? :)

David is still working on the website - creating new and valuable content, designing new features and building exciting functions like writing a travel diary and itinerary. He wants to push his business further by developing a mobile app for those who want to take notes during travelling to turn them into diaries later. The initial design started a never-ending pursuit of expansion opportunities.

Never stop

For ideas and methods on how to generate innovations, try a card deck from Libdesign:
Go discover

Another card deck from Idea Champions can help you think out of the box:
Go discover

Learn how to combine product innovation with the lean startup approach:
Go discover

Great book about improving products with users in mind is the UX Team of One:
Go discover

The end

While this e-book in its scope can't give you a comprehensive step-by-step guide for all aspects of developing new software, you should now have a much clearer idea of what's ahead of you and how to avoid any costly mistakes down the road.

The best thing you can do now is to dive deeper into the tools, methods and sources we have provided you in each chapter. Use them to get yourself and your team more prepared for the challenge.

Don't forget that the most important thing to do during the process of developing a digital product is to stay in touch with your users. Speak to them, validate your ideas and concepts and adjust your plans accordingly.

You have spent a good chunk of time reading this e-book and we hope you will be able to get the most out of it. Thank you for that time. We appreciate it and we will keep our fingers crossed for you and your project.

Developing software is a huge digital adventure and those who are prepared will be rewarded by success and an amazing experience. Feel free to share it with us and don't hesitate to share this e-book with others too.

Good luck and have fun!

About the author

Ondrej Machart is a user experience designer who believes in the power of a meaningful process based on the patience, continuous testing and providing a true value to the users.

He learned the hard way through more than 100 digital projects over the last 8 years that it is this approach that brings the best results.

His team at Argo22 believe in this philosophy and deliver software that matters to clients all over Europe and Asia.

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HOW TO
BUILD
SOFTWARE
THAT MATTERS

20 Essential Steps to Avoid
Failure and Achieve Success
When Developing a New
Digital Product

ARGO

The crew for digital adventures